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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2164	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/688,217	YOSHIDA, ISSEI	
	Examiner	Art Unit	
	Charles D. Adams	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In response to communications filed on 4 October 2007, claims 1, 3-4, 6, and 10-14 are amended and claim 8 is cancelled. Claims 1-7, 9-16 are pending in the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 6, 10, and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims state "wherein said unnecessary word determination means determines a word is an unnecessary word in response to the word having a lesser number of occurrences than a given standard in the at least one other category". However, a review of the specification indicates that a word is determined an unnecessary word only if it appears *more* frequently than a given standard, not less (see paragraph [0028] of current specification). The examples from paragraphs [0032] - [0035] go on to give examples wherein a word is determined to be *not* unnecessary

because it occurs less than a given standard. Examiner is unable to find any recitation in the specification wherein a word is determined to be unnecessary when it occurs less frequently than a given standard in the at least one other category.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 5-7, 9-11, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kincaid et al. (US Pre-Grant Publication 2002/0169764) in view of Dehlinger et al. (US Patent 7,181,451).

As to claim 1, Kincaid et al. teaches:

List generation means for generating a word list for each of at least two categories by extracting words from a learning document set (see paragraph [0082]);

Kincaid et al. does not teach:

Unnecessary word determination means for relatively determining an unnecessary word for a category on the basis of the number of occurrences of a given word within at least one other category by using the list generated by said list generation means

Dehlinger et al. teaches unnecessary word determination means for relatively determining an unnecessary word for a category on the basis of the number of occurrences of a given word within at least one other category by using the list generated by said list generation means (see 6:20-28. The frequency of occurrence of a term can be calculated as the "total number of occurrences of a term in the texts in a library per total number of texts in the library")

Kincaid et al. as modified teaches:

wherein said unnecessary word determination means determines a word is an unnecessary word in response to the word having a lesser number of occurrences than a given standard in the at least one other category (see Kincaid et al. paragraph [0082]. Words with that are less distinctive in a category are determined to be unnecessary as keywords to that category. Also see Dehlinger et al. which determines selectivity of words (6:20-28), and comparing selectivity of words in a document to determine distinctive words for the document (see 10:65-11:2)), the given standard comprised of a predetermined threshold scaled by the number of documents in the at least one other category (see 6:20-28. The selectivity of a word can be determined in relation to the frequency of occurrences of a term in a library divided by the number of texts in the library. Dehlinger et al. teaches wherein distinctive words for a document are chosen based on the selectivity of the word, wherein a threshold is set to cut off less-selective words (see 10:65-11:12). The threshold is in the terms of a selectivity value, which is calculated as stated above);

means for generating a document classification catalog by eliminating words determined to be unnecessary words from each of the word lists (see Kincaid et al. paragraph [0082]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kincaid et al. by the teachings of Dehlinger et al., since Dehlinger et al. teaches that "the database provides a plurality of words and associated selectivity values, where the selectivity value associated with a word is related to the frequency of occurrence of that word in at least one library of texts in a field, relative to the frequency of occurrence of the same word in one Or more libraries of texts in one or more other fields, respectively" (see 3:17-23).

As to claim 2, Kincaid et al. as modified teaches wherein said list generation means generates a list indicating a frequency of appearance of a given word for each category (see 9:60-10:4. It determines the selectivity of a word in each library by comparing the frequency of the word in the library to the frequency of the word in the other libraries).

As to claim 5, Kincaid et al. as modified teaches:

Classification catalog storage means for storing a list for each category from which unnecessary words were eliminated based on the determination with said unnecessary word determination means (see Kincaid et al. paragraphs [0082]);

Document classification means for performing classification processing for classification target documents by using said document classification catalog (see Kincaid et al. paragraphs [0083]).

As to claim 6, Kincaid et al. teaches:

A classified document set storage device for storing documents classified according to at least two categories (see paragraphs [0051]-[0053. Documents to be searched are stored on the internet. Categories of these documents are formed, [0082]);

A category table generation unit for generating a table (see paragraph [0082]) , the table comprising:

Word lists corresponding to each of the at least two categories wherein the word lists are generated by extracting words from a learning document set (see paragraph [0082]);

Kincaid et al. does not teach frequencies comprising the number of occurrences of each extracted word within the learning document set;

Dehlinger et al. teaches frequencies comprising the number of occurrences of each extracted word within the learning document set (see 6:20-28. The frequency of occurrence of a term can be calculated as the "total number of occurrences of a term in the texts in a library per total number of texts in the library");

Kincaid et al. as modified teaches:

An unnecessary word elimination unit for eliminating an unnecessary word from a category in the table on the basis of the number of occurrences within at least one other category of a given word, wherein said unnecessary word elimination unit extracts a word belonging to a given category and eliminates the word as an unnecessary word from said table in response to the word having a lesser number of occurrences than a given standard in the at least one other category, the given standard comprised of a predetermined threshold scaled by the number of documents in the at least one other category (see 6:20-28 and 10:65-11:12. The selectivity of a word can be determined in relation to the frequency of occurrences of a term in a library divided by the number of texts in the library. Dehlinger et al. teaches wherein distinctive words for a document are chosen based on the selectivity of the word, wherein a threshold is set to cut off less-selective words (see 10:65-11:12). The threshold is in the terms of a selectivity value, which is calculated as stated above); and

A classification catalog storage device for storing the table from which the unnecessary word was eliminated by said unnecessary word elimination unit (see Kincaid et al. paragraph [0082]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kincaid et al. by the teachings of Dehlinger et al., since Dehlinger et al. teaches that "the database provides a plurality of words and associated selectivity values, where the selectivity value associated with a word is related to the frequency of occurrence of that word in at least one library of texts

in a field, relative to the frequency of occurrence of the same word in one Or more libraries of texts in one or more other fields, respectively" (see 3:17-23).

As to claim 7, Kincaid et al. as modified teaches:

A classification target document storage device for storing classification target documents to be classified (see Dehlinger et al. 8:12-28); and

a document classification processing unit for performing classification processing for the classification target documents stored in said classification target document storage device by using said table stored in said classification catalog storage device (see Kincaid et al. paragraphs [0082]).

As to claim 9, Kincaid et al. as modified teaches:

Wherein said table contains information on each word (see 10:26-41), a frequency of appearance of each word (see 9:46-59. It would have been obvious to include information on frequency, if information on 'selectivity' is recorded), and a part of speech of each word (see 10:26-41, 7:33-34).

As to claim 10, Kincaid et al. teaches:

Generating a word list for each of at least two categories by extracting words from a learning document set (see paragraph [0082]),

Kincaid et al. does not teach the word list containing information on a frequency of appearance of each extracted word within each category;

Dehlinger et al. teaches the word list containing information on a frequency of appearance of each extracted word within each category (see 6:20-28 and 10:65-11:12);

Kincaid et al. as modified teaches determining an unnecessary word for a category on the basis of the relative number of occurrences of a given word within at least one other category wherein a word is determined to be unnecessary in response to the word having a lesser number of occurrences than a given standard in the at least one other category, the given standard comprised of a predetermined threshold scaled by the number of documents in the at least one other category (see 6:20-28 and 10:65-11:12. The selectivity of a word can be determined in relation to the frequency of occurrences of a term in a library divided by the number of texts in the library. Dehlinger et al. teaches wherein distinctive words for a document are chosen based on the selectivity of the word, wherein a threshold is set to cut off less-selective words (see 10:65-11:12). The threshold is in the terms of a selectivity value, which is calculated as stated above); and

Eliminating words determined to be unnecessary words from each of the word lists (see Kincaid et al. paragraph [0082]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kincaid et al. by the teachings of Dehlinger et al., since Dehlinger et al. teaches that "the database provides a plurality of words and associated selectivity values, where the selectivity value associated with a word is related to the frequency of occurrence of that word in at least one library of texts

in a field, relative to the frequency of occurrence of the same word in one Or more libraries of texts in one or more other fields, respectively" (see 3:17-23).

As to claim 11, Kincaid et al. as modified teaches:

Further comprising generating a document classification catalog by eliminating the words determined to be unnecessary words from the word list (see Kincaid et al. paragraph [0082]).

As to claim 14, Kincaid et al. teaches:

Acquiring information on words from a document set, classifying the words according to category, and storing the words in a storage device (see paragraph [0082]);

Kincaid et al. does not teach recognizing the number of occurrences within at least one other category of a word belonging to a given category on the basis of the acquired information;

Dehlinger et al. teaches recognizing the number of occurrences within at least one other category of a word belonging to a given category on the basis of the acquired information (see 6:20-28 and 10:65-11:12);

Kincaid et al. as modified teaches determining whether the word is an unnecessary word for identifying the given category on the basis of the recognized number of occurrences wherein the word is determined to be unnecessary in response to the word having a lesser number of occurrences than a given standard in the at least

one other category, the given standard comprised of a predetermined threshold scaled by the number of documents in the at least one other category (see 6:20-28 and 10:65-11:12. The selectivity of a word can be determined in relation to the frequency of occurrences of a term in a library divided by the number of texts in the library. Dehlinger et al. teaches wherein distinctive words for a document are chosen based on the selectivity of the word, wherein a threshold is set to cut off less-selective words (see 10:65-11:12). The threshold is in the terms of a selectivity value, which is calculated as stated above); and

Generating a document classification catalog by eliminating words determined to be unnecessary words (see Kincaid et al. paragraph [0082]).

As to claim 15, Kincaid et al. as modified teaches further comprising storing said classification catalog into the storage device (see Kincaid et al. paragraph [0082] and Dehlinger et al. 10:26-39).

As to claim 16, Kincaid et al. as modified teaches further comprising the step of performing classification processing for classification target documents by using the classification catalog stored in said storage device (see Kincaid et al. paragraph [0082]).

6. Claims 3-4 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kincaid et al. (US Pre-Grant Publication 2002/0169764) in view of Dehlinger et al.

(US Patent 7,181,451), and further in view of Sakai et al. (US Patent 7,099,819).

As to claim 3, Kincaid et al. as modified teaches the system according to claim 1.

Kincaid et al. as modified does not teach wherein the document classification catalog is comprised of a plurality of vector spaces wherein each vector space represents at least one category.

Sakai et al. teaches wherein the document classification catalog is comprised of a plurality of vector spaces wherein each vector space represents at least one category (see 4:4-18, and Figure 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kincaid et al. by the teaching of Sakai et al., since Sakai et al. teaches that to "provide a text information analysis apparatus and a method to quickly classify and arrange a plurality of unknown texts" (see 1:61-63).

As to claim 4, Kincaid et al. as modified teaches wherein a target classification document is defined by a document vector and wherein a distance is defined between the document vector and each of the plurality of vector spaces such that the distance indicates a degree of similarity between the target classification document and a category represented by the vector spaces (see Sakai et al. 4:4-18 and Figure 5).

As to claim 12, Kincaid et al. teaches the method according to claim 11.

Kincaid et al. does not teach wherein the document classification catalog is comprised of a plurality of vector spaces wherein each vector space represents at least one category.

Sakai et al. teaches wherein the document classification catalog is comprised of a plurality of vector spaces wherein each vector space represents at least one category (see 4:4-18 and Figure 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kincaid et al. by the teaching of Sakai et al., since Sakai et al. teaches that to "provide a text information analysis apparatus and a method to quickly classify and arrange a plurality of unknown texts" (see 1:61-63).

As to claim 13, Kincaid et al. as modified teaches wherein a target classification document is defined by a document vector and wherein a distance is defined between the document vector and each of the plurality of vector spaces such that the distance indicates a degree of similarity between the target classification document and a category represented by the vector spaces (see Sakai et al. 4:4-18 and Figure 5).

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Adams whose telephone number is (571) 272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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